

1410 North Hilton, Boise, ID 83706-1255, (208) 334-0502

Philip E. Batt, Governor

February 28, 1996

CERTIFIED MAIL #P 875 704 989

Charles S. Smith General Manager National Perlite Products Company P. O. Box 162 Malad City, Idaho 83252

Re: National Perlite Products Company (Malad City) - #9501-016-2 Tier II Operating Permit (#071-00008)

Dear Mr. Smith:

On January 24, 1995, the Idaho Division of Environmental Quality (DEQ) received National Perlite Products Company's (NPPC) operating permit application. On September 27, 1995, the application was declared complete. On November 13, 1995, a proposed Tier II operating permit was issued for public comment. No comments were received.

Based on review of your application and state and federal rules and regulations, DEQ finds this project meets the provisions of IDAPA 16.01.01.400. (Rules for the Control of Air Pollution in Idaho). Therefore, I am pleased to enclose your Tier II operating permit (#071-00008) for the emission sources that exist at the facility.

You, as well as any other entity, may have the right to appeal this final agency action pursuant to the Idaho Department of Health and Welfare Rules, Title 5, Chapter 3, "Rules Governing Contested Case Proceedings and Declaratory Rulings", by filing a petition with the Hearings Coordinator, Department of Health and Welfare, Administrative Procedures Section, 450 West State Street - 10th Floor, Boise, Idaho 83720-5450, within thirty-five (35) days of the date of this decision.

Please be advised that this operating permit is subject to permit application fees of five hundred dollars (\$500.00) in accordance with IDAPA 16.01.01.470. IDAPA 16.01.01.470 became effective on March 7, 1995. Information regarding the permit application fees will be sent to you shortly.

If you have any questions regarding the terms or conditions of the enclosed permit, please contact Brian R. Monson, Bureau Chief, Operating Permits Bureau, at (208) 373-0502.

Sincerely,

Orville D. Green

Assistant Administrator Permits and Enforcement

Mirelle D. Green

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Enclosure

cc: G. Spinner, SEIRO Source File

COF

	STATE OF IDAHO AIR POLLUTION OPERATING PERMIT	PERMIT NUMBER 0 7 1 - 0 0 0 0 8				
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		AQCK CLASS FILE	mary sic secondary sic			
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	GENERAL INFORMATION					
		ZONE UTM COORDII	NATE (km)			
		1 2 3 9 6 0	4 6 7 2 0			
	DOWN					
Τ.	. PERMITTEE National Perlite Products Company					
2.	PROJECT Tier II Operating Permit					
3.	ADDRESS P.O. Box 162	TELEPHONE # (216) 861-8705	COUNTY Oneida			
	F.O. BOX 102	(210) 501 5703				
4.	CITY	STATE	ZIP CODE			
	Malad City	Idaho	83252			
5.	PERSON TO CONTACT	TITLE				
	Charles Smith	General Manager				
6.	EXACT PLANT LOCATION					
	456 West, 445 North of Malad Ci	ty, Idaho				
7.	GENERAL NATURE OF BUSINESS & KI	NDS OF PRODUCTS				
	Expanding Perlite for Horticult	ural and Building Products				
8.	GENERAL CONDITIONS					

This permit is issued according to the Rules for the Control of Air Pollution in Idaho, Section 16.01.01.400 and pertains only to emissions of air contaminants which are regulated by the State of Idaho and to the sources specifically allowed to be operated by this permit.

THIS PERMIT HAS BEEN GRANTED ON THE BASIS OF DESIGN INFORMATION PRESENTED IN THE APPLICATION AND DEQ'S TECHNICAL ANALYSIS OF THE SUPPLIED INFORMATION. CHANGES IN DESIGN OR EQUIPMENT, THAT RESULT IN ANY CHANGE IN THE NATURE OR AMOUNT OF EMISSIONS, MAY BE A MODIFICATION. MODIFICATIONS ARE SUBJECT TO DEPARTMENT REVIEW IN ACCORDANCE WITH Section 16.01.01.200 OF THE Rules for the Control of Air Pollution in Idaho.

Caville D. Gue

ASSISTANT ADMINISTRATOR
DIVISION OF ENVIRONMENTAL QUALITY

ISSUED February 28, 1996

Date

EXPIRES February 28, 2001

Date

PERMITTEE AND LOCATION

PERMIT NUMBER

071 - 000

National Perlite Products Company Tier II Operating Permit Malad City, Idaho

The Permittee is hereby allowed to operate the equipment described herein subject to the emission limits and monitoring and reporting requirements specified in this permit.

SOURCE

General Plant Description

1. SOURCE DESCRIPTION

1.1 Process Description

National Perlite Products Company, Malad City, Idaho, is a Perlite expanding plant manufacturing horticultural medium, insulating wall fill, cryogenic insulation, and other expanding perlite products. Perlite ore is delivered to the facility by covered trucks that unload the material into a concrete hopper (1). The ore flows from the hopper onto the #1 unloading conveyor (2) then to the #2 unloading conveyor (3) which is a travelling belt so it can be moved on tracks to position the discharge over the proper silo. Crude ore is stored in six steel silos (4). The #5 reclaim conveyor (5) is fed by the silo discharge conveyor (25) and delivers it to #6 reclaim conveyor (6) which leads to the expander surge bin (7). The expander vibratory feeder (8) receives the ore from the surge bin and delivers it to the elevator (9). The elevator carries the ore to ore distribution pipes at the top of the expander (10) which is fired with propane and maintains a temperature of about 1700°F. The flame softens the ore and the internal moisture expands the ore ten (10) to twenty (20) times the original size. The expanded perlite is air cooled and collected in the primary product collector (11) which is a cyclone that separates the expanded perlite from the combustion gases and cooling air. The product passes through a 14" rotary valve (12) then to a cooler separator (13) which acts as a separator of the fines from the coarse aggregates. The coarse aggregates are collected in the coarse product packer (26). The fines are carried to the cooler exhauster (14) and then to cooler separator cyclone (15) which separates the perlite fines from the air stream which is discharged to the atmosphere via the expander baghouse (17). Since the expander baghouse is not operating properly at this time, the exhaust from this baghouse is connected to the unloading baghouse (20). product passes through a 10" rotary valve (16) then to the fine product packer (26). Expander baghouse fines are collected in the baghouse fines packer (26) via an 8" rotary airlock (19).

1.2 Equipment Specifications

1.2.1 Conveyors

ID #	Name	Width	Capacity	flow rate
(3) (5) (6)	<pre>#1 unloading belt #2 unloading belt #5 reclaim conveyor #6 reclaim conveyor silo discharge conveyor</pre>	18" 18" 18" 18"	100 tph 100 tph 30 tph 100 tph	60 tph 60 tph 30 tph

PERMITTEE AND LOCATION

PERMIT NUMBER

National Perlite Products Company Tier II Operating Permit Malad City, Idaho 071 - 00008

The Permittee is hereby allowed to operate the equipment described herein subject to the emission limits and monitoring and reporting requirements specified in this permit.

SOURCE

General Plant Description

1.2.2 Process Equipment

ID #	Nam	e		Capacit	Y	Mode	1	Pot	ver
(1) (4) (7) (8) (9) (10) (12) (13) (14) (16) (18) (19) (21) (22) (23) (24) (26) (27)	storage expande expande elevato perlite 14" rot cooler cooler to baghous 8" rota ore unicombust screw copressur bag pac	expander ary valve separator exhauster ary valve e exhauster ry valve oading exhau ion blower onveyor ized contain kers	(4) 1ster ner	13000 ft ³	.3/min 3/min each t3/min	Nort	ago Blower h American	25	•
	1.2.2.1 Process Equipment (cyclones)								
	ID #	Name			Diameter	1	Efficiency		
	(11) primary product collector(15) cooler separator cyclone				90 % 94 %				
1.2.3	Emission	ns Control E	Equipment	:					
ID #	Name		Manufac	turer	Capacity	1	pressure d	rop	Air:Cloth
(17) (20)		r baghouse ng baghouse			5000 ft ³ /min 13000 ft ³ /min		2 in. H ₂ O 4 in. H ₂ O		7.2 3.6

PERMITTEE AND LOCATION

National Perlite Products Company Tier II Operating Permit Malad City, Idaho PERMIT NUMBER

071 - 00008

The Permittee is hereby allowed to operate the equipment described herein subject to the emission limits and monitoring and reporting requirements specified in this permit.

SOURCE

Ore Unloading System

SOURCE DESCRIPTION

1.1 Process Description

Sized and dried perlite ore is delivered to the facility in covered trucks. The ore is discharged into a hopper where it is fed to an elevating belt conveyor. The elevating belt conveyor discharges the ore on a travelling belt which can be moved so the discharge is located over the proper silo. The different ore grades are stored in six (6) identical silos.

1.2 <u>Control Description</u>

Emissions from the ore unloading system are controlled by the ore unloading baghouse.

1.3 Equipment Specifications

The ore unloading baghouse has the following specifications:

Manufacturer:
Model:
Air Capacity:
Filtration Area:
Air/Cloth:
Pressure Drop:
Control Efficiency:

C&W Dust Systems RA-280 Stationary 13,000 ft³/min 2865 ft² 4.45 ACFM/ft² 6 in. H₂O 99.9%

2. EMISSION LIMITS

Particulate matter (PM) and PM-10 (as defined in IDAPA 16.01.01.006.71) emissions from the loading hopper, #1 unloading belt, #2 unloading belt, and ore storage silos shall not exceed the pound per hour (1b/hr) or ton per year (T/yr) values listed in Appendix A.

3. OPERATING REQUIREMENTS

- 3.1 The static pressure drop across the ore unloading baghouse shall be maintained at a level greater than or equal to the manufacturer's specifications outlined in Section 1.3.
- 3.2 Documentation of the manufacturer's pressure drop specifications shall be kept onsite and shall be made available to Department representatives upon request.

4. MONITORING AND RECORDKEEPING REQUIREMENTS

- 4.1 The Permittee shall install, calibrate, maintain, and operate pressure drop monitoring equipment to continuously measure the pressure drop across the ore unloading baghouse to determine compliance with Section 3.1.
- 4.2 The Permittee shall monitor and record the pressure drop across the ore unloading baghouse once on daily basis in a log which that shall be kept on-site for a minimum of two (2) years and shall be made available to Department representatives upon request.

ISSUED: February 28, 1996 EXPIRES: February 28, 2001

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PERMITTEE AND LOCATION

PERMIT NUMBER

National Perlite Products Company Tier II Operating Permit Malad City, Idaho 071 - 00008

The Permittee is hereby allowed to operate the equipment described herein subject to the emission limits and monitoring and reporting requirements specified in this permit.

SOURCE

Ore Reclaim System

1. SOURCE DESCRIPTION

1.1 Process Description

The ore is reclaimed from the silo using a belt conveyor from the bottom of the silo to a cross conveyor. The cross conveyor discharges on to a reclaim belt delivering the ore to the ore surge bin. The ore is fed to an elevator through a vibratory feeder.

1.2 <u>Control Description</u>

Emissions from the ore reclaim system are controlled by the ore unloading baghouse and/or the expander baghouse.

1.3 Equipment Specifications

The expander baghouse has the following specifications:

Manufacturer:
Model:
Air Capacity:
Filtration Area:
Air/Cloth:
Pressure Drop:
Control Efficiency:

Perlite Corporation
--5,000 ft³/min
694.5 ft²
7.2 ACFM/ft²
2 in. H₂O
99.9%

EMISSION LIMITS

Particulate matter (PM) and PM-10 (as defined in IDAPA 16.01.01.006.71) emissions from the silo discharge conveyor, #5 reclaim belt, #6 reclaim belt, surge bin, and elevator shall not exceed the pound per hour (1b/hr) or ton per year (T/yr) values listed in Appendix A.

OPERATING REQUIREMENTS

- 3.1 The static pressure drop across the ore unloading baghouse and expander baghouse shall be maintained at a level greater than or equal to the manufacturer's specifications outlined in Section 1.3 of both SOURCE Ore Unloading System and SOURCE Ore Reclaim System.
- 3.2 Documentation of the manufacturer's pressure drop specifications shall be kept onsite and shall be made available to Department representatives upon request.
- 3.3 The exhausters of the expander baghouse shall be connected to the unloading baghouse until the expander baghouse is replaced.
- 3.4 DEQ shall be notified when the expander baghouse is replaced.

4. MONITORING AND RECORDKEEPING REQUIREMENTS

4.1 The Permittee shall install, calibrate, maintain, and operate pressure drop monitoring equipment to continuously measure the pressure drop across the ore unloading baghouse and the expander baghouse to determine compliance with Section

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PERMITTEE AND LOCATION

PERMIT NUMBER

071 - 00008

National Perlite Products Company Tier II Operating Permit Malad City, Idaho

The Permittee is hereby allowed to operate the equipment described herein subject to the emission limits and monitoring and reporting requirements specified in this permit.

SOURCE

Ore Reclaim System

4.2 The Permittee shall monitor and record the pressure drop across the ore unloading baghouse and the expander baghouse once on daily basis in a log which that shall be kept on-site for a minimum of two (2) years and shall be made available to Department representatives upon request.

PERMITTEE AND LOCATION

PERMIT NUMBER

071 - 00008

National Perlite Products Company Tier II Operating Permit Malad City, Idaho

The Permittee is hereby allowed to operate the equipment described herein subject to the emission limits and monitoring and reporting requirements specified in this permit.

SOURCE

Expanding System

1. SOURCE DESCRIPTION

1.1 Process Description

The ore is expanded at 2400°F in the expander by a 6x106 Btu/hr, propane-fueled combustion blower. After that, the product enters the collection/separation system which consists of a 72" diameter cyclone, a cooler separator, and a 24" diameter cyclone. Different sizes of expanded perlite are collected.

1.2 <u>Control Description</u>

Emissions from the expanding system are controlled by the ore unloading baghouse and/or the expander baghouse.

1.3 Equipment Specifications

The specifications of those control equipment are shown in Section 1.3 of both SOURCE Ore unloading System and SOURCE Ore Reclaim System.

EMISSION LIMITS

Particulate matter (PM), PM-10 (as defined in IDAPA 16.01.01.006.71), oxides of nitrogen (NO $_{\rm x}$), and carbon monoxide (CO) emissions from the expander (combustion), 72" cyclone, cooler separator, and the fines (24") cyclone shall not exceed the pound per hour (lb/hr) or ton per year (T/yr) values listed in Appendix A.

OPERATING REQUIREMENTS

- 3.1 The static pressure drop across the ore unloading baghouse and expander baghouse shall be maintained at a level greater than or equal to the manufacturer's specifications outlined in Section 1.3 in both SOURCE Ore Unloading System and SOURCE Reclaim System.
- 3.2 Documentation of the manufacturer's pressure drop specifications shall be kept onsite and shall be made available to Department representatives upon request.
- 3.3 The exhausters of the expander baghouse shall be connected to the unloading baghouse until the expander baghouse is replaced.
- 3.4 DEQ shall be notified when the expander baghouse is replaced.

4. MONITORING AND RECORDKEEPING REQUIREMENTS

- 4.1 The Permittee shall install, calibrate, maintain, and operate pressure drop monitoring equipment to continuously measure the pressure drop across the ore unloading baghouse and the expander baghouse to determine compliance with Section 3.1.
- 4.2 The Permittee shall monitor and record the pressure drop across the ore unloading baghouse and the expander baghouse once on daily basis in a log which that shall be kept on-site for a minimum of two (2) years and shall be made available to Department representatives upon request.

PERMITTEE AND LOCATION

National Perlite Products Company Tier II Operating Permit Malad City, Idaho PERMIT NUMBER

071 - 00008

The Permittee is hereby allowed to operate the equipment described herein subject to the emission limits and monitoring and reporting requirements specified in this permit.

SOURCE

Fugitive Emission Sources

SOURCE DESCRIPTION

1.1 Process Description

Fugitive emissions are generated at transfer points, unloading, reclaiming, and unpaved haul roads.

2. EMISSION LIMITS

- 2.1 Particulate matter (PM) from ore unloading, ore reclaiming, and haul roads shall not exceed the pound per hour (lb/hr) or ton per year (T/yr) values listed in Appendix R
- 2.2 Visible fugitive emissions shall not be observed leaving the property boundaries exceeding a period or periods aggregating more than three (3) minutes in any sixty (60) minute period. This visual determination is to be conducted using Method 22, 40 CFR Part 60, Appendix A.
- 2.3 Particulate matter (PM) emissions from any unloading, loading, or transfer point shall not exhibit greater than twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period, as determined by using the Department's "Procedure's Manual for Air Pollution Control".

OPERATING REQUIREMENTS

Fugitive emissions generated from transfer points, roads, and all other sources of fugitive emissions shall be reasonably controlled in accordance with IDAPA 16.01.01.650 (Rules for the Control of Air Pollution in Idaho).

Some of the reasonable precautions may include, but are not limited to, the following:

- 3.1 Use of water or environmentally safe chemical dust suppressants;
- 3.2 Use of control equipment or enclosures; and
- 3.3 Paving of haul roads.

ISSUED: February 28, 1996 EXPIRES: February 28, 2001

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Appendix A

National Perlite Products Company - Malad City

Hourly (1b/hr) and Annual (T/yr) Point Source Emissions Limits

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0	T/YE		-	0.23	
8	1b/hr	1		0.11	
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°os	15/hr T/yr	-			
PH-10	T/YF	90.0	0.06	0.49	
Hå	lb/hr	1.65 0.06	0.90 0.06	0.25 0.49	
Hd	T/YE	0.06	0.06	0.49	
A.	lb/nr	1.65	06.0	0.25	
Source		Ore Unloading	Ore Reclaim	Expanding	

Appendix B

National Perlite Products Company - Malad City

Hourly (1b/hr) and Annual (T/yr) Fugitive Source Emissions Limits

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Source		Ore Unloading	Ore Reclaim	Unpaved Roads	

OPERATING PERMIT GENERAL PROVISIONS

- A. All emissions authorized herein shall be consistent with the terms and conditions of this permit. The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the Rules for the Control of Air Pollution in Idaho, and the Environmental Protection and Health Act, Idaho Code 39-101 et. seq.
- B. The Permittee shall at all times (except as provided in the Rules for the Control of Air Pollution in Idaho) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable laws for the control of air pollution.
- C. The Permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:
 - To enter upon the Permittee's premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and
 - 2) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and to require stack emission testing (i.e., performance tests) in conformance with state approved or accepted EPA procedures when deemed appropriate by the Director.
- D. Except for data determined to be confidential under Section 39-111, Idaho Code, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the appropriate regional office of the Division of Environmental Quality.
- E. Nothing in this permit is intended to relieve or exempt the Permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.
- F. In the event of any change in control or ownership of source(s) from which the authorized emissions emanate, the Permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Director.
- G. This permit shall be renewable on the expiration date, provided the Permittee submits any and all information necessary for the Director to determine the amount and type of air pollutants emitted from the equipment for which this permit is granted. Failure to submit such information within sixty (60) days after receipt of the Director's request shall cause the permit to be voided.
- H. The Director may require the Permittee to develop a list of Operation and Maintenance Procedures which must be approved by the Department. Such list of procedures shall become a part of this permit by reference, and the Permittee shall adhere to all of the operation and maintenance procedures contained therein.

I. The Permittee shall provide the Department a minimum of thirty (30) days notice prior to the scheduled date of any performance test required pursuant to this permit. Such testing must strictly adhere to the procedures outlined in the Department's **Procedures Manual for Air Pollution Control**, and will not be conducted on weekends or state holidays, unless the Permittee obtains prior Department approval. Testing procedures and specific time limitations may be modified by the Department by prior negotiation if conditions warrant adjustment.

The Permittee shall promptly notify the Department of any change in the testing schedule and shall provide at least five (5) working days notice prior to conducting any rescheduled test, unless the Department approves a shorter advanced notice period. Any records or data generated as a result of such performance tests shall be made available to the Department upon request.

The performance tests will be performed at the maximum production rate unless otherwise is specifically stated elsewhere in this Operating Permit. If this maximum rate is not achieved during testing, the allowable production rate will be limited to the production rate attained during testing.

J. The provisions of this permit are severable; and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.